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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,890	08/04/2003	Kuen-Yuan Hwang	LA-7403-104	5821

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FULBRIGHT AND JAWORSKI LLP
555 S. FLOWER STREET, 41ST FLOOR
LOS ANGELES, CA 90071

EXAMINER	
FEELY, MICHAEL J	

ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 07/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/633,890	HWANG ET AL.	
	Examiner	Art Unit	
	Michael J. Feely	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 April 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Pending Claims

Claims 1-14 are pending.

Claim Objections

1. The objection to claim 11 has been overcome by amendment.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language;
>
> or
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. The rejection of claims 1-14 under 35 U.S.C. 102(e) as being anticipated by Hwang et al. (Pub. No. US 2004/0147640 A1, now US Pat. No. 6,900,269) stand for the reasons of record.

The applied reference has a common assignee with the instant application; however the inventive entity is different. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Regarding claims 1-14, Hwang et al. disclose: *(1)* a halogen free resin composition, consisting essentially of:

- (A) one or more phosphorus-containing epoxy resins (paragraphs 0008-0010; claim 1);
- (B) a hardener represented by formula (I) *see claim for details* (paragraphs 0008-0010; claim 1); and
- (C) a hardening accelerator (paragraphs 0008-0010; claim 1);

(2) wherein R^1 is t-butyl; R^2 is methylene group; m is 0; and n is 1 (paragraphs 0008-0010; claim 2);

(3) wherein the hardener having the structure represented by formula (I) is one prepared by the reaction of a phenolic compound, an aromatic diamine compound, and an aldehyde compound in the presence of a solvent (paragraph 0011; claim 3);

(4) wherein the phenolic compound is t-butyl phenol (paragraph 0012; claim 4); the aromatic diamine compound is 4,4'-diamino-diphenyl methane (paragraphs 0014-0016; claim 4); the aldehyde compound is paraformaldehyde (paragraph 0017; claim 4); and the solvent is aromatic hydrocarbon solvent (paragraph 0019; claim 4);

(5) wherein the phosphorus-containing epoxy resin is a side chain type phosphorus-containing epoxy resin represented by formula (III) *see claim for details* (paragraphs 0021-0022; claim 5); *(6)* wherein the side chain type phosphorus-containing epoxy resin is one obtained by incorporating 9,10-dihydro-9-oxa-10-phosphorous-phenanthrenyl-10-oxide into the structure of epoxy resin (paragraphs 0021-0022; claim 6);

(7) wherein the phosphorous-containing compound is the side chain type phosphorous-containing epoxy resin represented by formula (IV) *see claim for details* (paragraphs 0023-0026; claim 7); *(8)* wherein the side chain type phosphorous-containing epoxy resin is one prepared by undergoing the addition reaction of 9,10-dihydro-9-oxa-10-phosphorous-phenanthrenyl-10-oxide with an aromatic aldehyde compound and undergoing the condensation reaction with an aromatic compound having active hydrogen to produce a phosphorous-containing compound, and subsequently reacting the phosphorous-containing compound with an epoxy resin (paragraphs 0023-0026; claim 8); *(9)* wherein the aromatic aldehyde compound is 4-hydroxy benzaldehyde, and the aromatic compound having active hydrogen is phenol (paragraphs 0023-0026; claim 9); *(10)* wherein the epoxy resin is derived from the monomers selected from the group consisting of *see claim form list* (paragraphs 0027-0036; claim 10);

(11) wherein one or more phosphorous-containing epoxy resins of component (A) are used in an amount of 40 to 80 wt% based on the total of components (A) and (B) (paragraph 0039; claim 11);

(12) wherein the hardener is selected from the group consisting of *see claim for list* (paragraph 0040; claim 12);

(13) wherein the hardening accelerator of component (C) is used in 0.01 to 1 wt% based on the total amount of the resin composition (paragraph 0047; claim 13); and

(14) wherein the composition is useful in the application of adhesives, composite materials, laminated plates, printed circuit boards, copper foil adhesives, inks used for build-up process, and semiconductor packaging materials (paragraph 0059; claim 20).

Double Patenting

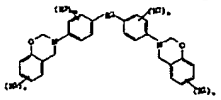
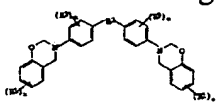
4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 1-4 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 and 20 of copending Application No. 10/412,126, now US Pat. No. 6,900,269. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

The following is a comparison of each claim 1:

10/633,890 Claim 1:	*10/412,126 (6,900,269) Claim 1:*
A halogen free resin composition, ***consisting essentially of:*** • (A) one or more phosphorous-containing epoxy resins; • (B) a hardener having the structure:  (I) *(see claims for R groups and variables);* • (C) a hardening accelerator.	A halogen free resin composition, ***comprising:*** • (A) one or more phosphorous-containing epoxy resins; • (B) a hardener having the structure:  (I) *(see claims for R groups and variables);* • (C) a hardening accelerator; • (D) a polyphenylene oxide resin; • (E) a filling material.

The copending claims are fully encompassed by the relatively broad instant claims. Furthermore, the following is a list of corresponding dependent claims:

10/633,890:	2	3	4	5	6	7	8	9	10	11	12	13	14
10/412,126:	2	3	4	5	6	7	8	9	10	11	12	13	20

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to form a composition of components (A), (B), and (C) in the composition of copending application 10/412,126 because the composition of the copending application is fully encompassed the broadly claimed instant invention. The copending claims anticipate the instant claims.

Response to Arguments

6. Applicant's arguments filed April 14, 2005 have been fully considered but they are not persuasive. Applicant argues that the instant invention overcomes the prior art due to the new transitional language of "consisting essentially of". Applicant states, "Component (D), a polyphenylene oxide resin, and component (E), a filling material in Hwang et al., are not used in

the present invention and are not required for the resin composition of the present invention to achieve the intended flame retardant property of the UL 94V-0 standard."

It has been found that the transitional phrase "consisting essentially of" limits the scope of a claim to the specified materials or steps "and those that do not materially affect the basic and novel characteristic(s)" of the claimed invention – *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976) *(see MPEP 2111.03)*. Applicants admission that components (D) and (E), "are not required for the resin composition of the present invention to achieve the intended flame retardant property of the UL 94V-0 standards," demonstrates that these components do not materially affect the basic and novel characteristic of the claimed invention. Further evidence of this can be found in the opening paragraph and examples of Hwang et al., wherein, "The flame retardant properties of the composition can reach the UL 94V-0 standard without adding halogen, and the composition has high heat resistance and excellent dielectric property."

Hence, the use of "consisting essentially of" does not exclude components (D) and (E) because the presence of these materials does not materially affect the basic and novel characteristic of the claimed invention. The UL 94V-0 standard is achieved with or without these materials present in the composition.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Communication

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Feely
Primary Examiner
Art Unit 1712

July 14, 2005